Sun IT Client Desktop Mobility with Security

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Sun Microsystems

Sun microsystems
We make the net work.

New Work Realities

Markets are *global*

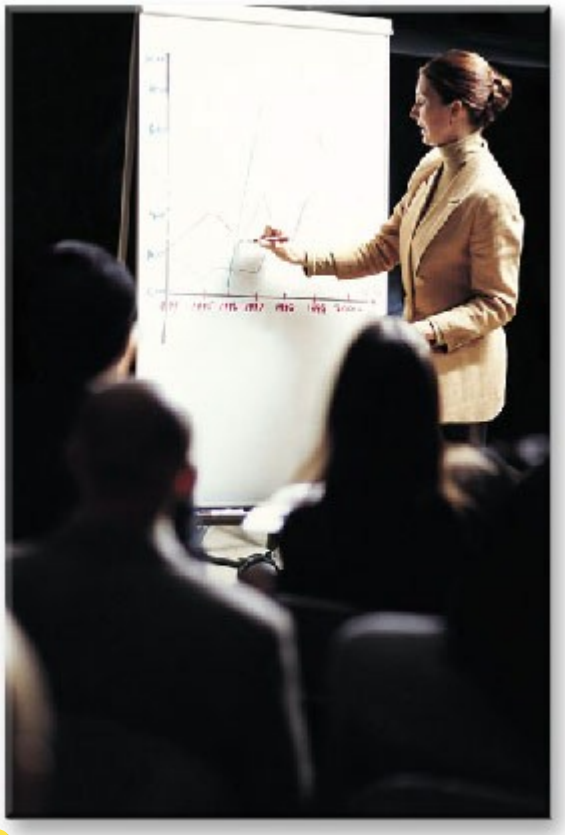
Talent is *global*

Workforce is *anywhere*

Work locations are *multiple*

Work activity is more *team-dependent*

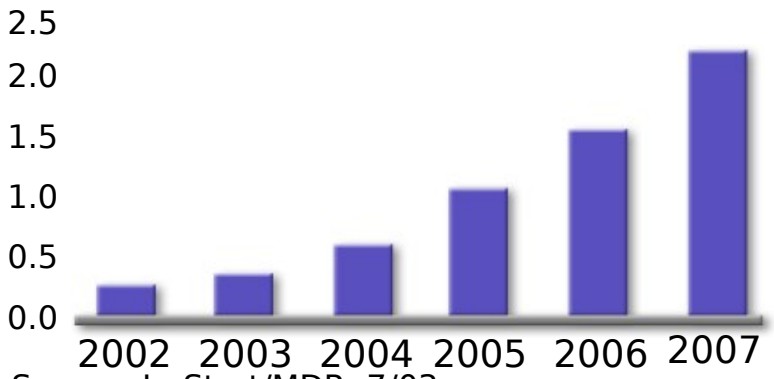
Major work constraint— *time*



High Bandwidth Is Taking Off

Worldwide Hotels Connected

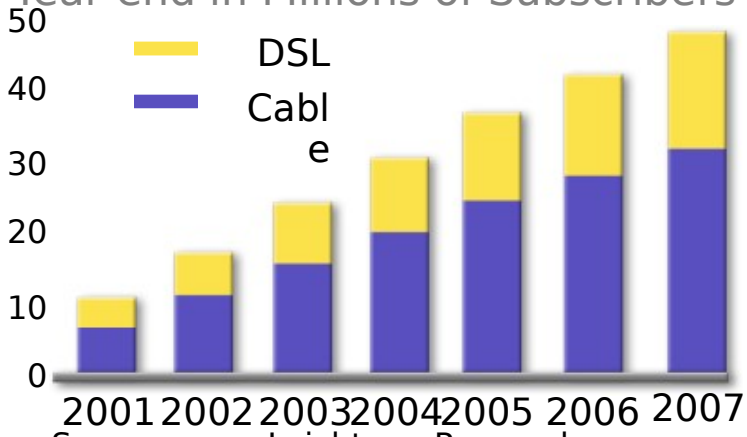
Units in Millions



Source: In-Strat/MDR, 7/03

U.S. Cable & DSL High Speed

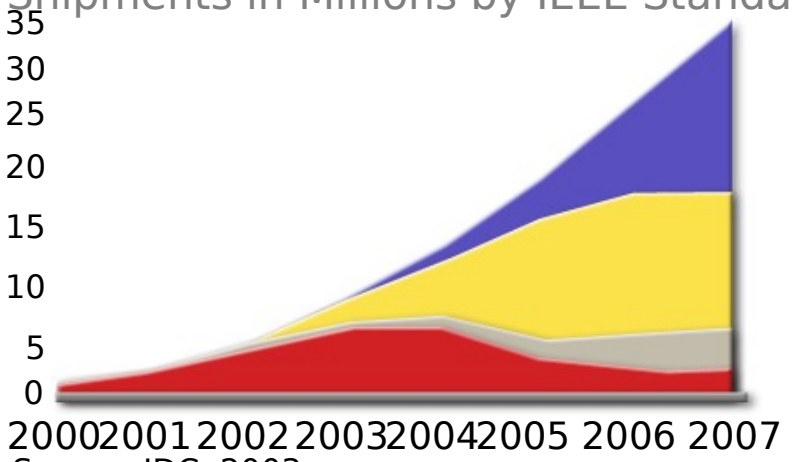
Year end in Millions of Subscribers



Source: www.LeichtmanResearch.com

Worldwide WLAN Access Points

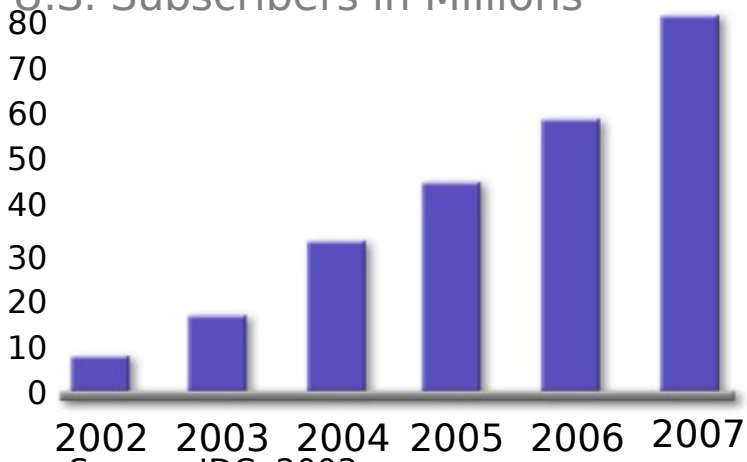
Shipments in Millions by IEEE Standard



Source: IDC, 2003

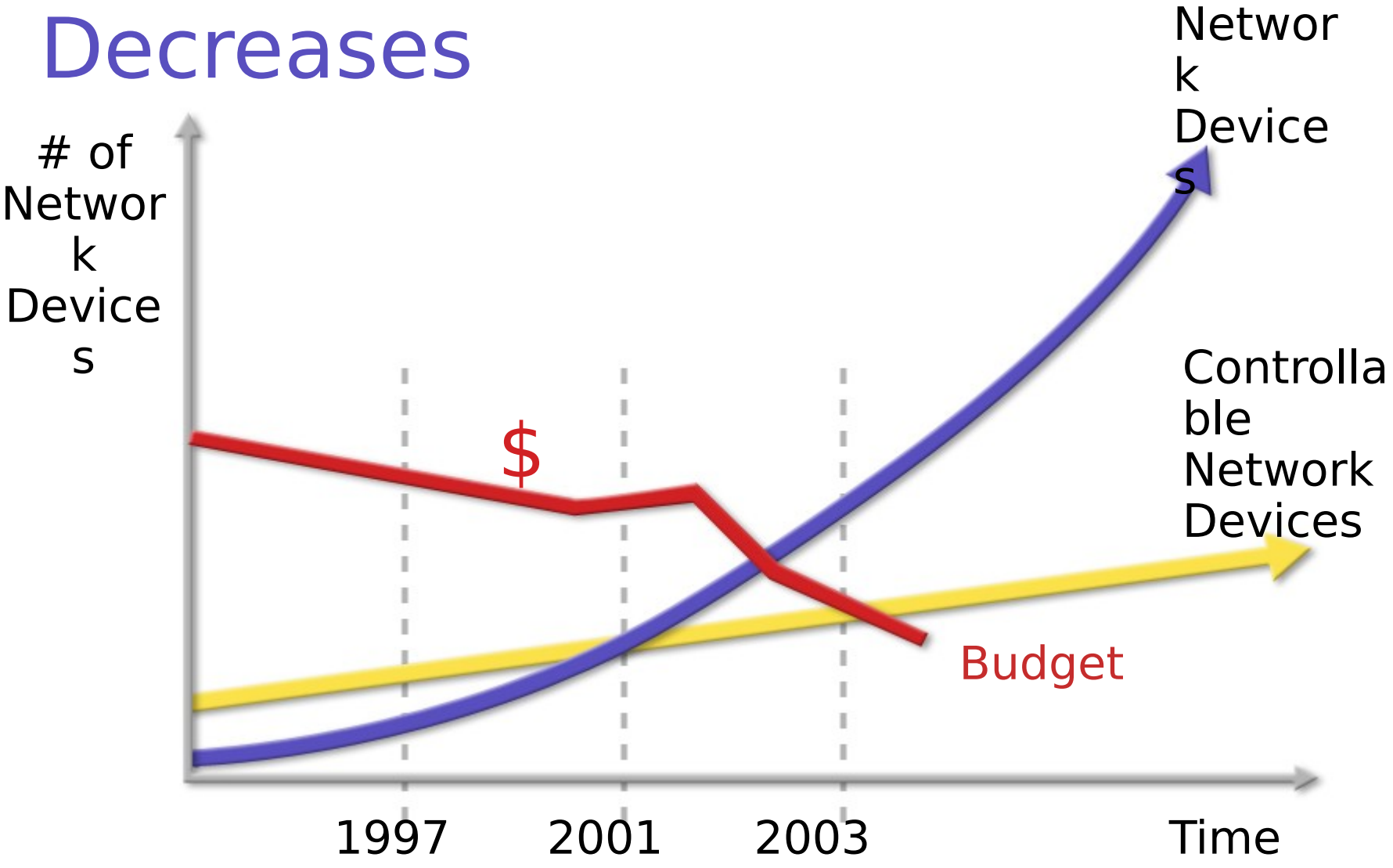
Mobile Packet Data (Cell)

U.S. Subscribers in Millions



Source: IDC, 2003

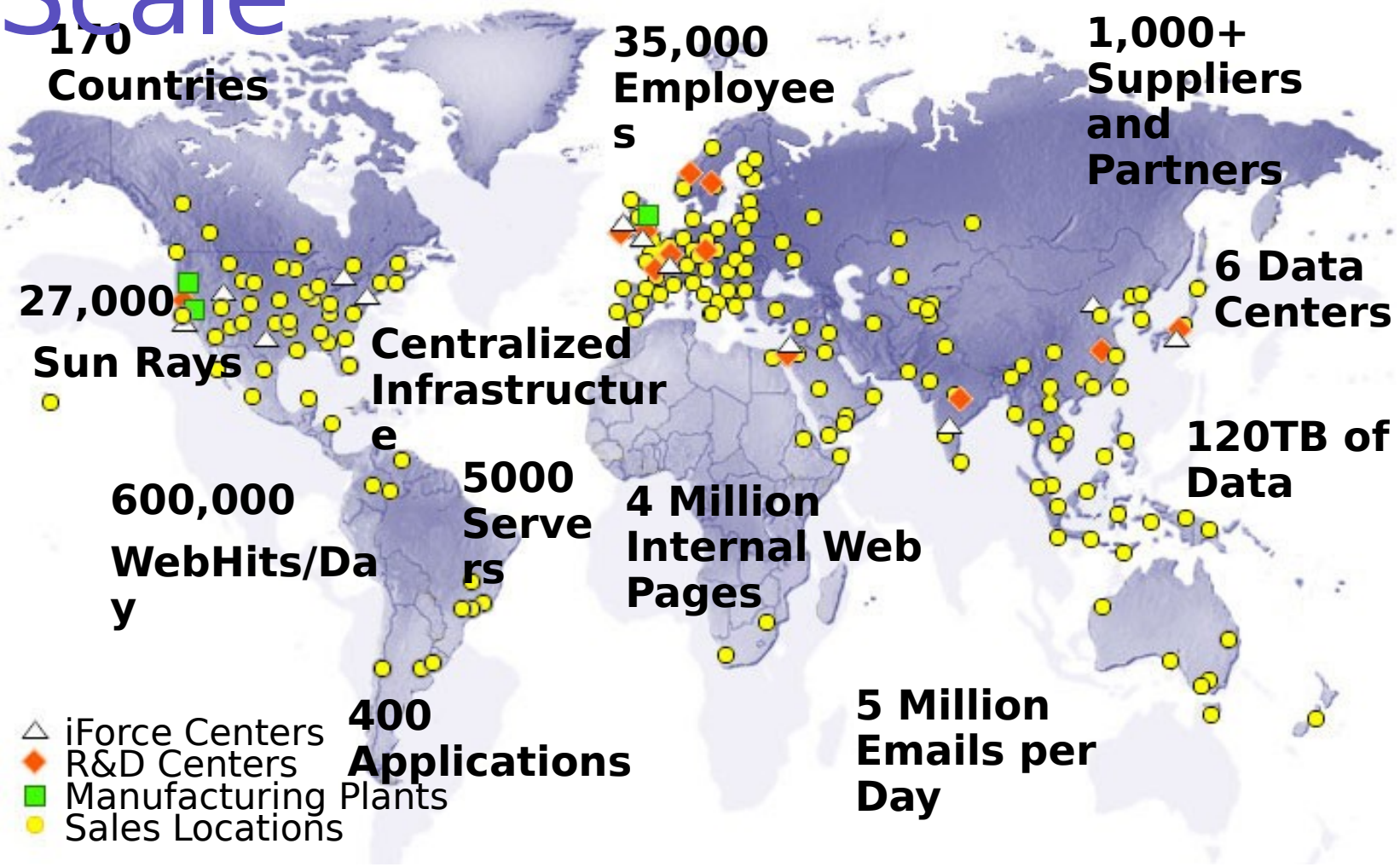
Devices Increase, Control Decreases



IT Realities

- Increasing pressures on already thin IT budgets
- Managing an increasingly complex IT environment
- Increasing demands to provide more applications
- More mission critical applications in IT environments
- Increased demand for availability
- Need to have data driven decisions

Sun IT's Global Scope & Scale



SUN'S 3 STRATEGIC IMPERATIVE

Attack Cost and Complexity

Accelerate Network Service Deployment

Unleash Mobility with Security

Mobility with Security Initiatives

- Consistent Authentication: Java Badge™
- Consistent Desktop: Java™ Desktop System
- Stateless, Zero Admin Client Devices: Sun Ray™
- Global login/Flex Offices/Thin Clients, Persistent Sessions, Mobile Secure Access
- VoIP and Soft PBX
- “Nothing but Switch Gear” Offices
- Services to the Edge (Email/Calendar)
- “DataTone” and Storage Consolidation
- Server Consolidation
- SMI Portal (Universal User Interface)

Java Badge™

From Multiple Cards With No Future to One, Multi-App Badge With a Future

Corporate Card/ Physical Access Card

Sun Ray™ Server Session Mobility Card

PKI Authentication Token Card/x509

Replaces Safeword Challenge/Response Card

ePurse/Payment Card

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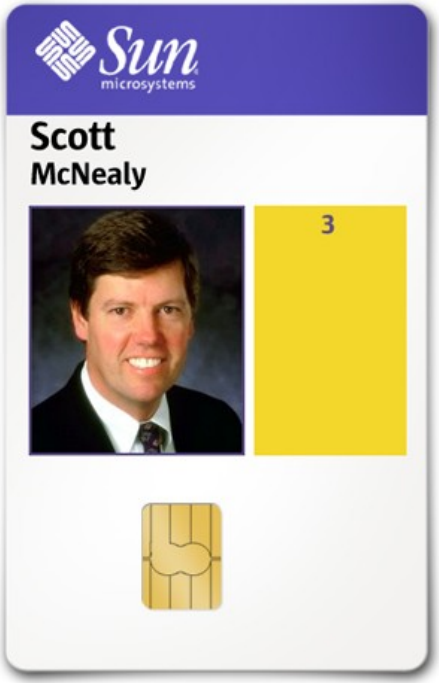


Sun Ray - by the Numbers

Size of internal deployment & estimated savings

28,000 Sun Ray appliances

500 SunRay servers

168 server groups

250+ buildings enabled for Sun Ray

3 very large installations: 10+ servers, largest is 20 servers

SunRay

HW savings of $1,970/seat

44 fewer SAs providing desktop support

Reduction in power costs (actual $2.8M)

Sun Ray server capacity:

- 225 “transaction” users
- 140 engineers

Scope & TCO Savings

Unquantified benefits

Reduced cost of application testing

Upgrade cost of engineer desktops vs shared labs

Improved Call center efficiency resulting from highly standardized environment

Improved productivity due to improved desktop performance

Reduction of office space costs from greater adoption of Flexible Office model

Decreased costs of fighting viruses - centralized administration with fewer vulnerabilities

Session availability during unstable power conditions

Deployment Details

Why We Did It

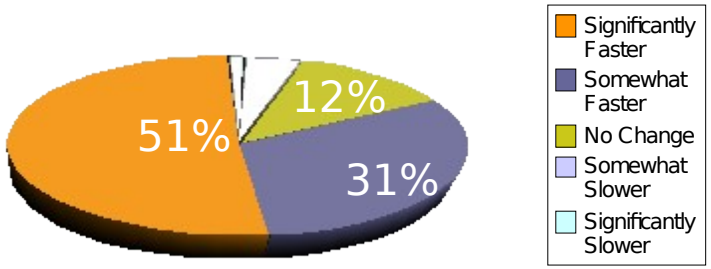
- Sun on Sun Goal
  - 5,000 FY00
  - 20,000 FY01
  - 25,000 FY02
- Zero-admin for desktops - FRUs
- Standardization
- Enables Flexible Office for iWork
- User feedback was positive

Deployment Details

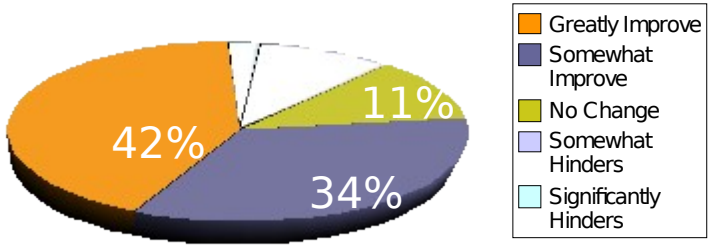
User Response

- Like silent operation
- Like better performance
- User Survey Results (May 2000)
  - 95% same or better ability to meet desktop needs
  - 95% same or better application performance
  - 87% same or better ability to accomplish work

Impact on Application Performance



Ability to Accomplish Work



iWork – By the Numbers

Work From Home

- 2,900 registered users
- Average 3.1 commute hours saved/week
- 34% productivity gain (self reported)

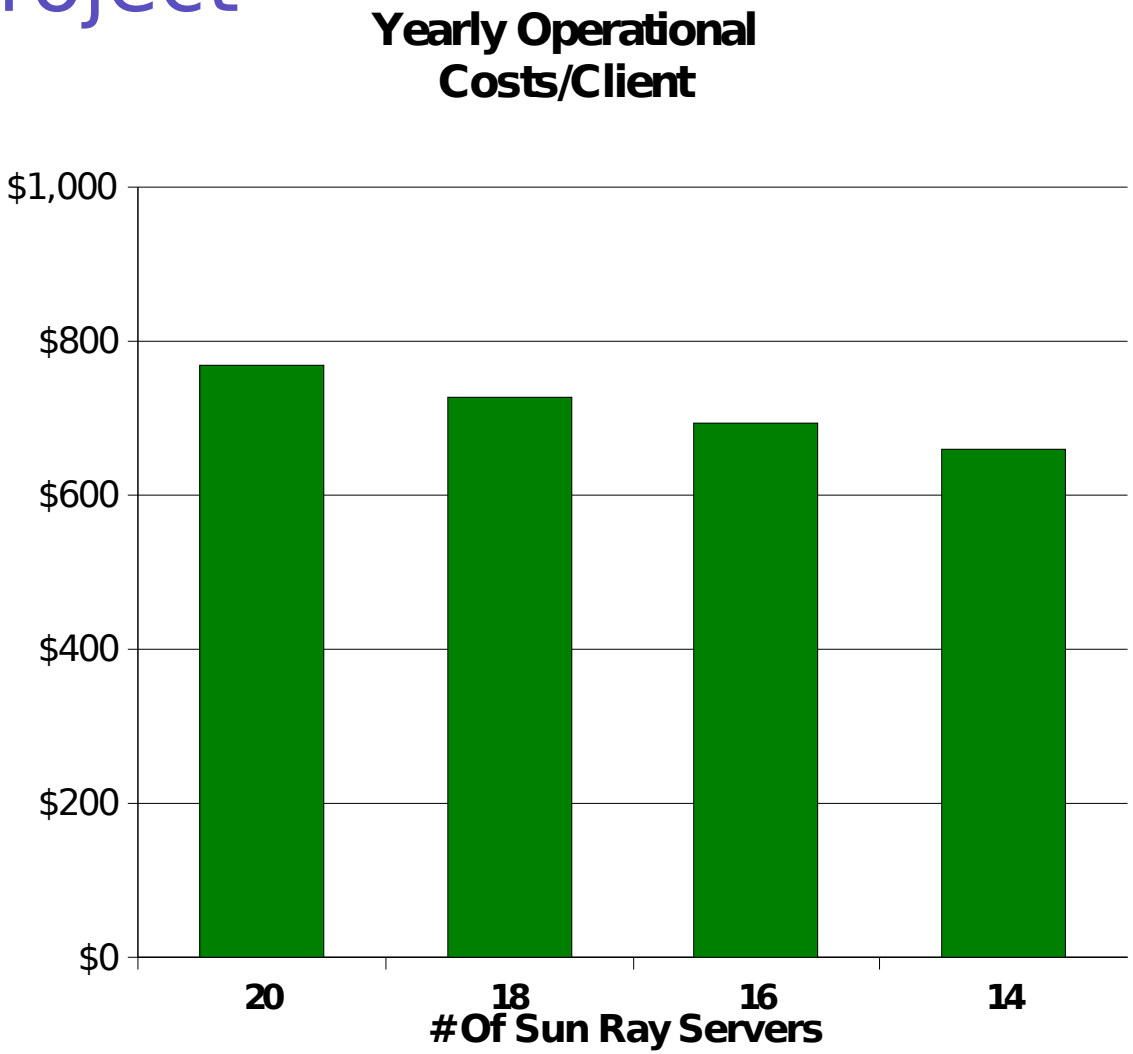
Drop-in Centers

- 5000 Users
- Average 90 minutes saved per visit

Flexible Office

- 95 locations
- 17,000 participants
- Annual 'cost avoidance' of $71 million
- 6,900 seats 'saved'
- 73% positive employee satisfaction, 7% negative
- 30-35% of employees do not badge into assigned locations

Campus Sun Ray Server Reduction Project



Sun Ray Program

Current IT activities & future plans for Sun Ray Enhancements

Enable hotdesking within entire 'Service Area' defined by network

Sun Ray deployed to employees homes over VPN (iWork)

Sun Ray connecting to its server over WAN (serverless office)

Sun Ray laptop with integrated 802.11 wireless connectivity

JDS on Sun Ray with GNOME as default desktop

Voice on Sun Ray: phone & Sun Ray converge

Upgrade to Solaris 10: achieve greater scalability & performance

Deploy Linux Sun Rays in small quantities as needed

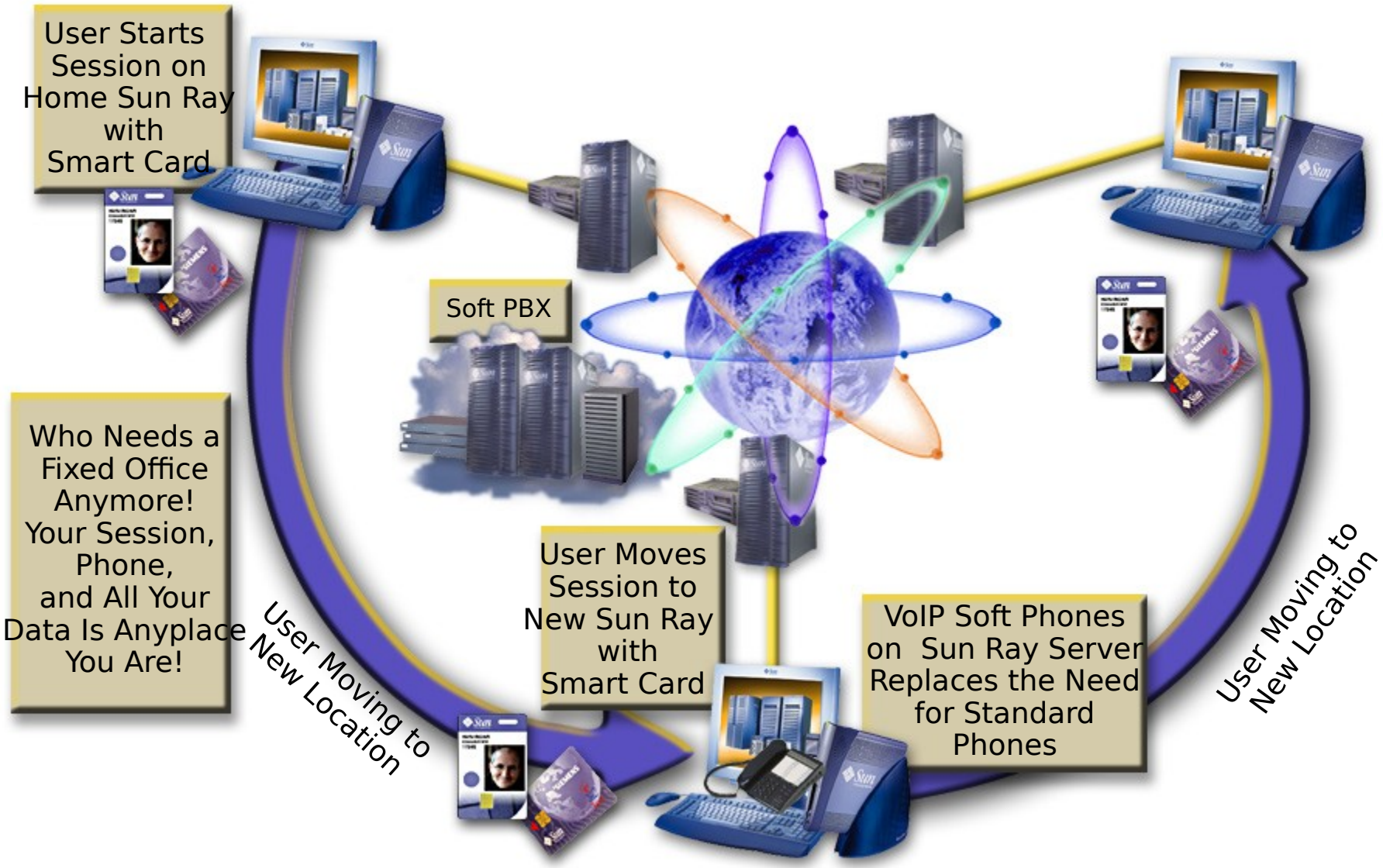
Software thin clients accessing Sun Ray server sessions

Java Badge middleware APIs for facilitating single-signon

N1 provisioning for dynamic Sun Ray server resource capacity

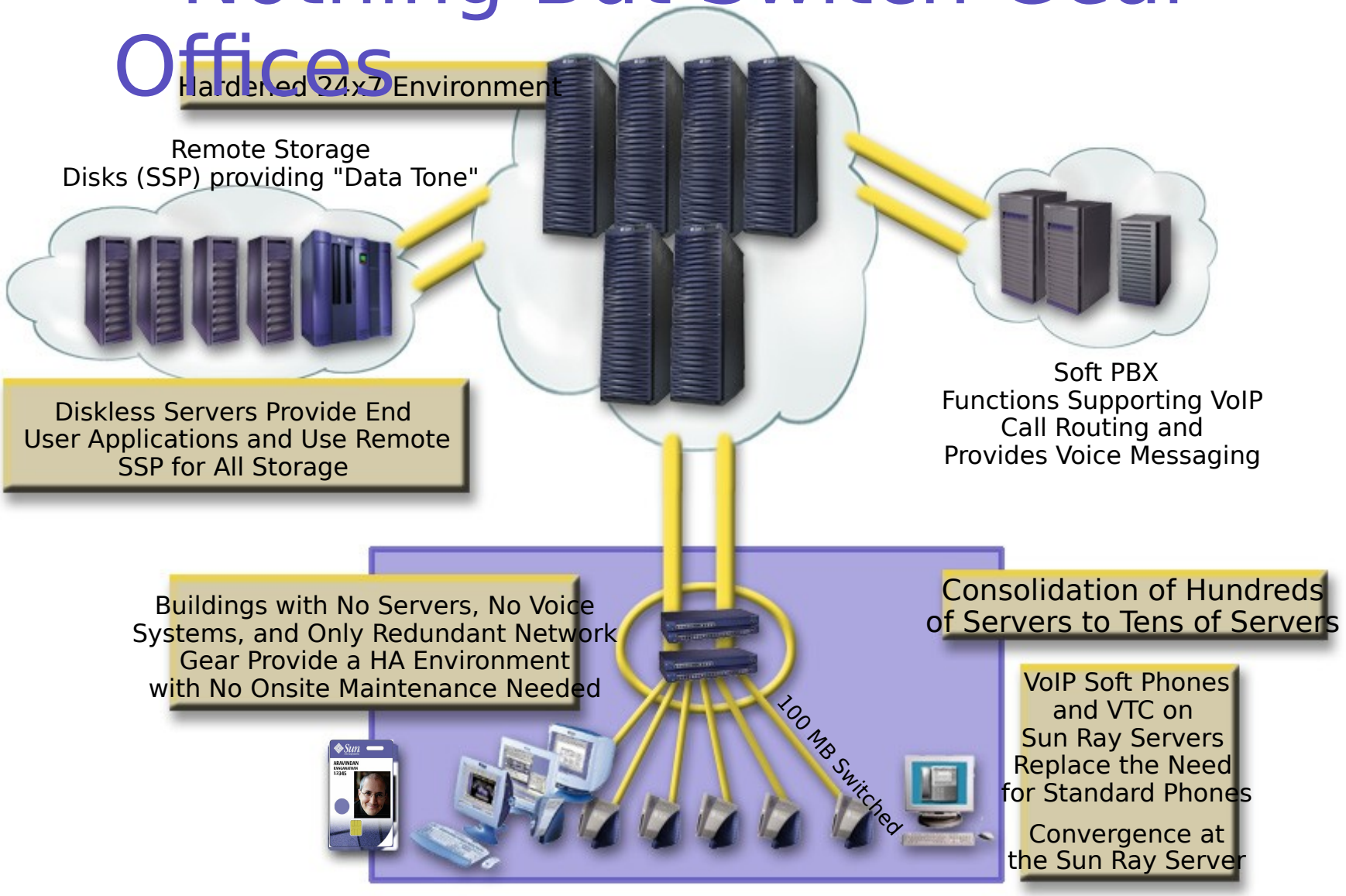
Collaboration tools: Sun Forum (shared app/ conferencing)

Global Session Mobility



N1 Provisioning of Sun Ray Servers

"Nothing But Switch Gear" Offices

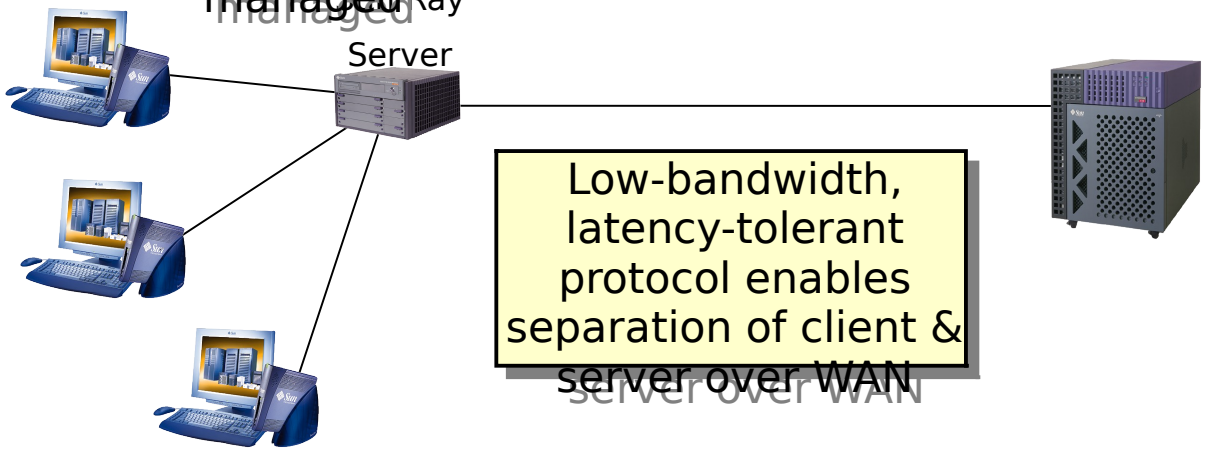


Serverless Offices

Windows Compatibility

Users that requre Windows-based applications can logon at any Sun Ray and access the applications through a thin client that is centrally managed

Citrix or Tarentella provides access to Windows-based back office apps running on SunPCi cards in a Sun server



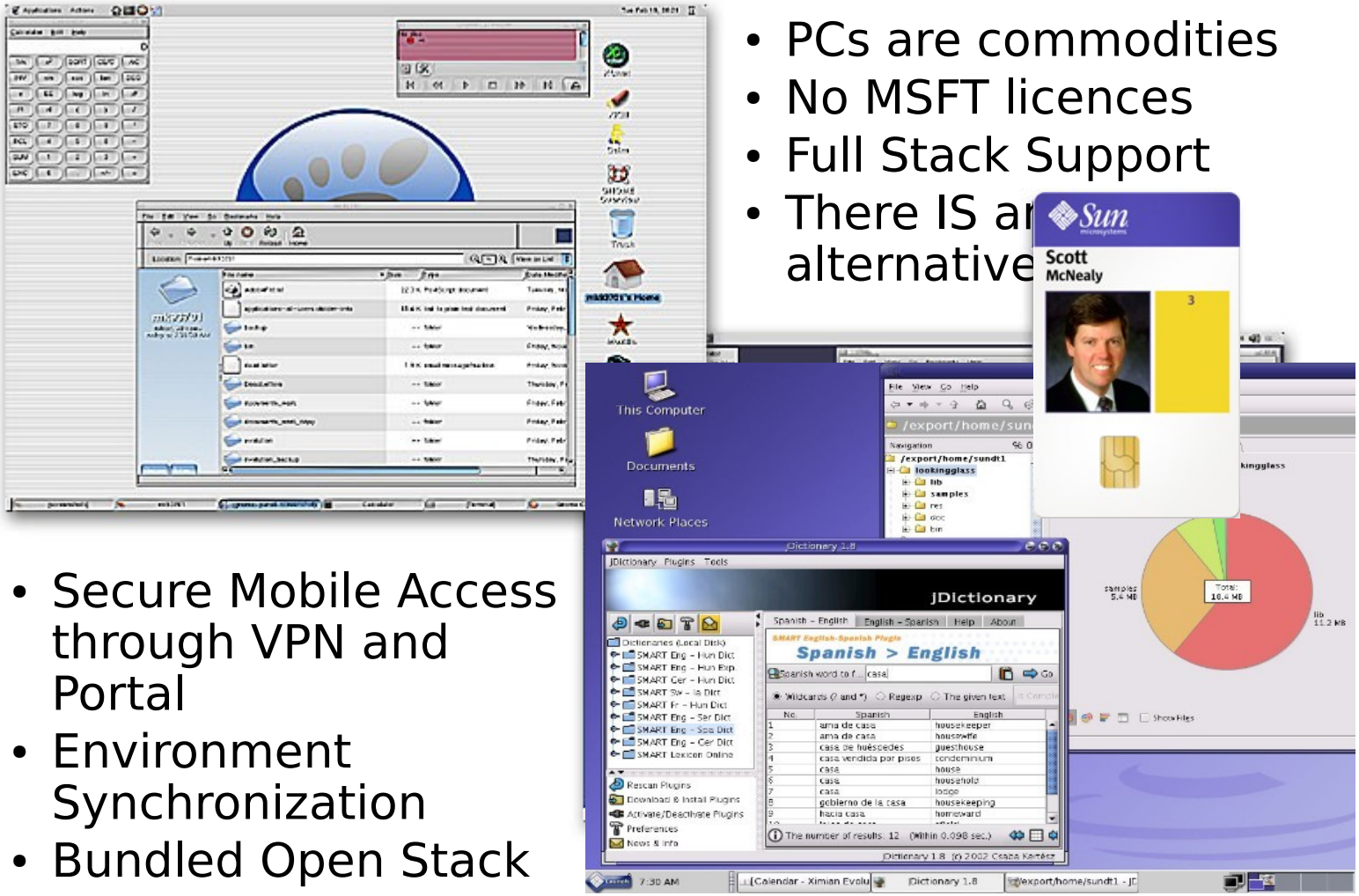
Low-bandwidth, latency-tolerant protocol enables separation of client & server over WAN

Sun/Solaris Server with SunPCI cards is centrally located in each geo in major server room or data center

Citrix or Tarantella client running on a Sun Ray server session

- Each SunPCi card supports approx 30 users
- Each server will supports approx 180 users
- Load balancing allocates sessions across cards

Java™ Desktop System



- PCs are commodities
- No MSFT licences
- Full Stack Support
- There IS ar
  alternative

- Secure Mobile Access through VPN and Portal
- Environment Synchronization
- Bundled Open Stack

JDS and iWork

- **JDS Base Components**

  SuSE distro
  Mozilla 1.4, Evolution 1.4 w/Sun ONE connector
  StarOffice 7
  Java 1.4.2
  Gnome 2.2
  Xfree86
  Rel 2: Sun Control Static

- **iWork Components add**

  VPNTool, ftpTool, misc utilities, Sun font
  Teledesk, iWork Documentation, diagno
  tools, File Sync

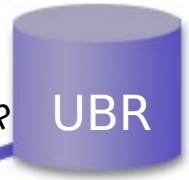
Dynamic Portal Service

View & Features Varies by Individual User and Group

Full Feature Trusted with Token

Web Top Browser Client Portal

XML
UDDI Business Registry



JAXR
SOAP

View & Features Varies by Type of Connection

Content Management, KM, DM, Channels

Limited Features

Portal Server

Directory

Service | Service | Service | Service

Application Server

Communications / Messaging

Operating Environment

Sun Servers & Storage

DATA

APPLICATIONS

REPORTS

TRANSACTIONS

Legacy ERP

Sun Servers & Storage

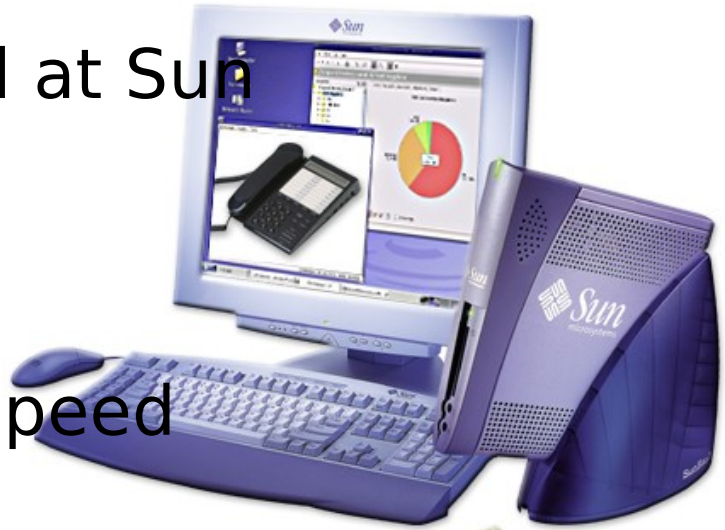
“Day in the Life” Secure Session Access

Always Secure, Always Encrypted to Your Java Badge

Secure Access Anywhere

Mobility With Security Today

- 28, 000 Sun Rays deployed at Sun
- 1 SA per 2000 clients
- $ 2.8M Power Savings
- Zero Move/Add/Changes
- Patching and OS upgrade speed
- Zero annual desktop refresh costs
- $71 M 'avoidance' in Real Estate
- Software License Savings
- Secure: token authentication, no viruses
- Silent: no fans or moving part
- No User time for boot up and OS management



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Big Savings

Mobility With Security Tomorrow

- Sun Ray at home
  - No license costs
  - No admin costs
  - No lost data
  - No sync file problem
  - Secure, authenticate
  - Fast and simple
- Serverless offices
- Soft phone savings
- Soft PBX
- N1™/Grid on Sun Rays

For Sun's Businesses, Making the Net Work Means...

Organizational and Team Changes

- Without infrastructure overhead

Anywhere Talent

- When Hiring/Acquiring
- When Forming Teams

Lower Costs

- Target $150M saved or avoided, annually

Security

- When accessing the Network from Any Where

For Sun's Employees, Making the Net Work Means...

Choice

- Where to Live
- Family/Work Balance
- Avoiding Commutes, Saving T

Mobility

- Internally and Externally
- To be with Customers, Partn
  Colleagues...or to be Alone

What You Can Do To Get Started

- ***Issue Identity/Smart cards***
- ***Standardize, consolidate authentication in your LDAP Directory***
- ***Deliver Dynamic Portal Services infrastructure to desktops and mobile devices***
- ***Pilot Sun Ray ultra-thin clients***

Sun IT Client Desktop Mobility with Security

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Sun microsystems
We make the net work.